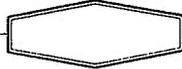


ASH GROVE CEMENT COMPANY



"WESTERN REGION"

July 28, 1994

Mr. Tom Hudson
Puget Sound Air Pollution Control Agency
110 Union Street, Suite 500
Seattle, WA. 98119-3958

Re: Analysis of sample #1 Toyota 847-DQE

Dear Mr. Hudson,

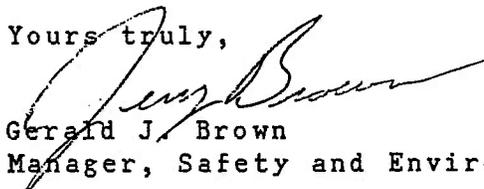
Please find enclosed the results of the above sample analyzed per your request and the remaining sample material.

As with the previous sample, these results indicate a material of natural origin resembling road dust or common soil that had not gone through the clinkering or burning process. Further analysis found the particle size of the sample to be generally larger than the kiln raw feed. Given these factors, along with the other test results, we must conclude that this material did not originate from our facility.

Please inform those interested of these results and express our concern and understanding of this matter. We remain committed to helping our neighbors and resolving this issue.

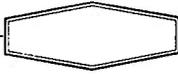
We will gladly explain any questions you may have about the results or further assist you any way possible.

Yours truly,


Gerald J. Brown
Manager, Safety and Environmental

cc: E. Pierce
Hans Steuch
Pat Noon

AGCS2M000890



"WESTERN REGION"

3801 EAST MARGINAL WAY, SOUTH • SEATTLE, WA 98134 • PLANT OFFICE: (206) 623-5596 • FAX: (206) 623-5355

Inter-Office Memorandum

Date July 28, 1994

To Jerry Brown From Patrick Noon *pk*

Copies to Ed Pierce Subject PSAPCA

We received an 11 gram sample from PSAPCA (Sea#1025-94). This material had been removed from an automobile on East Marginal Way South. The sample was labeled "Sample #1 Toyota 847-DQE 07/19/94 15:00". We received enough sample to run a battery of tests. We were also able to look at the material under the reflective and polarizing microscope (see attached pictures). The material is quite coarse, consisting of irregular shaped particles. The average particle diameter by microscopy is 79.5 microns. The chemical analysis and microscopy is listed on page #2. Discussion of results is listed on page #3.

ASH GROVE CEMENT SEATTLE LAB

Sample # 1025-94
 Date Recd July 22, 1994
 Sample Weight 11.5 grams

Chemical Analysis
 Size (microscopic) 79.5 microns
 Insoluble % 19.83
 SiO₂ % 28.2
 Al₂O₃ % 8.3
 Fe₂O₃ % 4.2
 CaO % 44.0
 MgO % 2.8
 SO₃ % 0.78
 Na₂O % not determined
 K₂O % 0.40
 Ignition Loss 9.34

Microscopy

Microscopically the material has a lot of quartz. This appears very bright under polarizing light with 1.54 refractive index oil. The material is also very coarse. There are almost no fine particles.

Picture #0.

Quartz standard under polarizing transmitted light with refractive index oil 1.54. Note bright appearance and color patterns.

Picture #1

Note three bright quartz crystals under 1.54 refractive index oil. Note other crystals are darkened.

Picture #2.

1025-94 #2 100x Transmitted light showing irregular shape and color patterns. The large particles average 80 microns.

Picture #3.

1025-94 #3 100x Reflected light. Shows irregular crystal colors and shapes.

Picture #4.

1025-94 #4 100x Reflected light. Shows irregular crystal colors and shapes.

Picture #5.

1025-94 #5 400x Polarized light. Shows bright quartz crystals. Some of the rounded edges of the quartz indicate weathering.

General discussion.

Our three main process products are listed below.

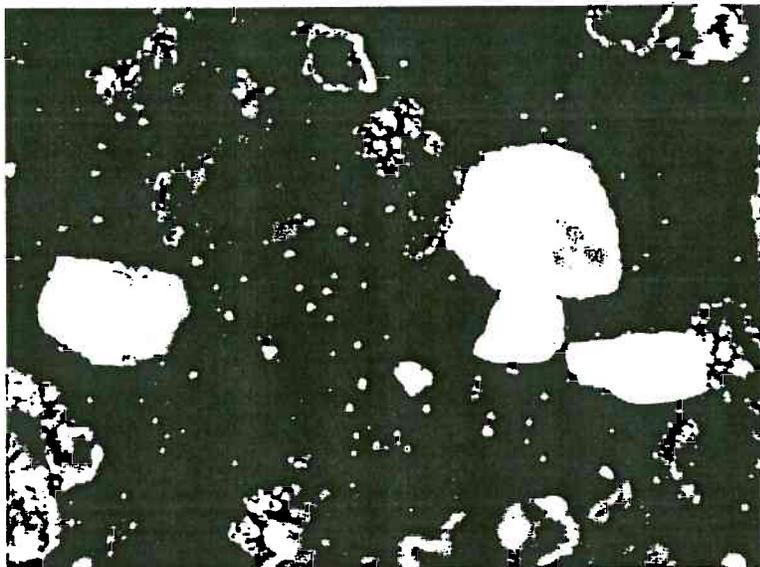
1. Kiln feed
2. Clinker
3. Cement

The key test is the Insoluble % test, which detects quartz or clay/soil materials. Clinker and Cement having been processed through a kiln system, have a very low Insoluble (<0.20%). This material having an Insoluble of 19.83% indicates a natural material that has not been burned. This goes a long way towards eliminating material #2 and material #3 listed above. The SO₃ level of the dust sample is 0.78%. A typical cement SO₃ level is 2.7 % SO₃. In addition almost 99% of cement is smaller than the average particle size of this dust. A process material that is on site that could match the above chemistry is raw feed or kiln feed. It is very unlikely to be any of these because 90% of our kiln feed has a particle size smaller than the PSAPCA dust sample. In addition in our kiln feed the concentration of quartz in this size range is only 1-2 % at the most. The ignition loss for kiln feed is typically 35% instead of 9.34%. The irregular shapes and granularity looks similar to common road or fugitive dust.



Pure Quartz 1.54 ri 100x polarizing lens

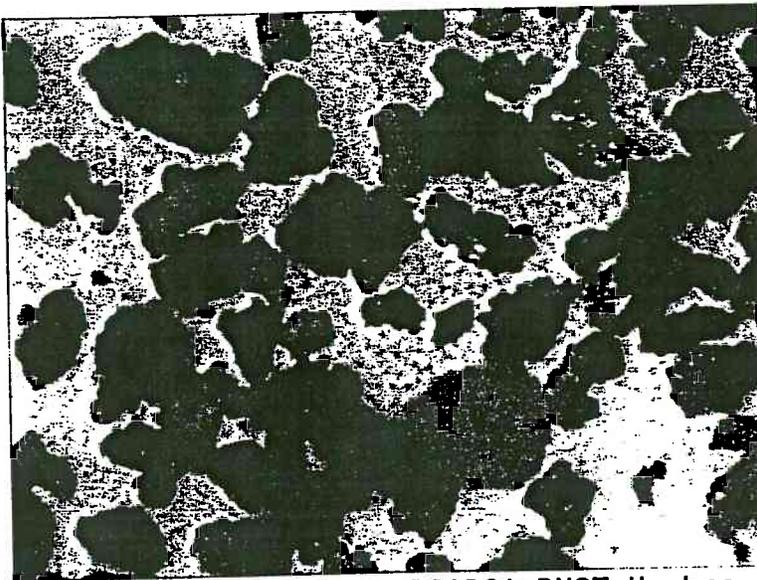
#0



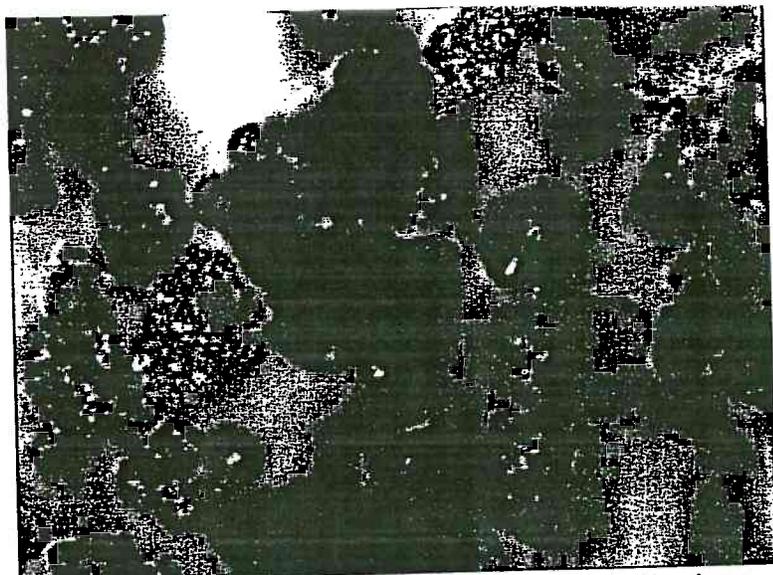
1025-94 #1 1.54 ri 100x polarizing lens



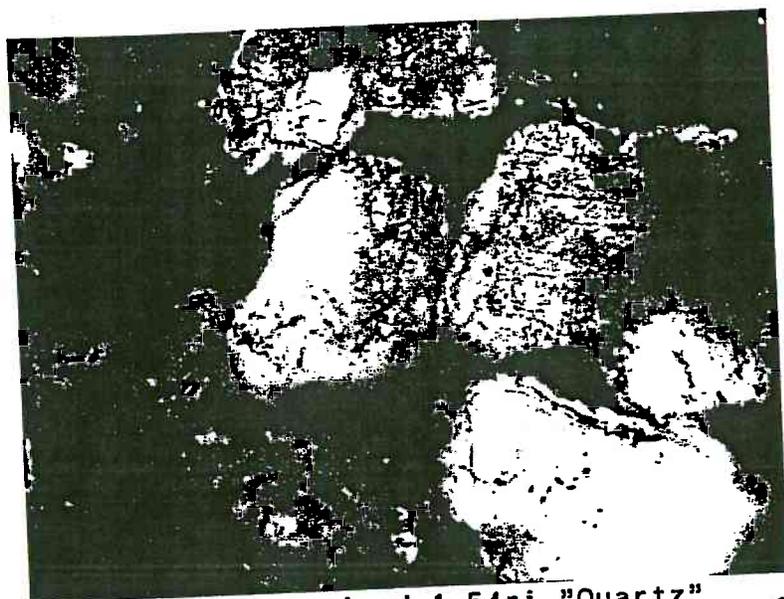
1025-94 #2 1.54 ri 100x transilluminated



1025-94 100xReflected PSAPCA DUST Hasbro #3

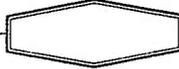


1025-94 200xReflected PSAPCA DUST Hasbro #4



1025-94 400xPolarized 1.54ri "Quartz" #5

ASH GROVE CEMENT COMPANY



"WESTERN REGION"

July 1, 1994

Mr. Tom Hudson
Puget Sound Air Pollution Control Agency
110 Union Street, Suite 500
Seattle, WA. 98119-3958

Re: Compliance Status Report - June 20, 1994

Dear Mr. Hudson,

The compliance status report of June 20, 1994 requested an analysis of particulates deposited on vehicles parked on the north side of South Nevada Street and a report of corrective action addressing this problem.

As per your request an analysis, limited because of sample size, was performed and the results (attached) indicate it is most likely road dust or a soil type material and were not consistent with a cement or clinker type material. In the future, should a larger sample 1-2 grams be collected, Ash Grove will gladly assist you in conducting additional tests.

We believe that the Seattle Plant is not the source of this problem. There are many fugitive sources in the vicinity and all contribute to the deposition of sand/soils on the roof of the Port Terminal #106. Some contributors are East Marginal way traffic, batch plant, port traffic in addition to vehicular and costumer traffic in our plant. The port's roof itself could be considered a source since it accumulates material with time over its large area and deposits this material during dry weather and a north wind in the concentrated area you observed.

Despite our belief, Ash Grove has expended a large effort to reduce whatever contribution we do have including enclosing the clinker pan conveyer, purchasing a water truck which and along with road sweepers is used to maintain our paved roads clean, offering the use of our wash rack facility to employees of adjacent businesses, keep doors and openings closed in our process buildings and maintaining dust collectors to insure efficient filtration. We have also prepared plans to clean the ports roof at our sole expense. This will occur as weather permits. These actions are taken with the good neighbor spirit in mind.

AGCS2M000897

As you observed on June 20, the source of the problem could not be determined and as you mentioned there were no visible emissions coming from our plant at the time. To the benefit of our immediate neighbors and community, Ash Grove Cement Company has taken expensive steps, many of them voluntary, to keep it that way. The management and the employees of the Seattle Plant are proud of our efforts and record. It disappoints us that we are unfairly suspected whenever your agency is contacted by our neighbors.

Please call me if you should have any questions.

Yours truly,



Gerald J. Brown
Manager, Safety and Environmental

cc: K. Rone
E. Pierce
Hans Steuch



"WESTERN REGION"

3801 EAST MARGINAL WAY, SOUTH • SEATTLE, WA 98134 • PLANT OFFICE: (206) 623-5596 • FAX: (206) 623-5355

Inter-Office Memorandum

Date June 21, 1994

To Jerry Brown

From Patrick Noon *PN*

Copies to Ken Rone

Subject PSAPCA

A Mr. Tom Hudson of PASPCA collected a very small sample of an undetermined dust from the Hasbro site next to the Ash Grove Cement Seattle plant. The material had a granular dust appearance. Since it was such a small sample, we were limited in the analytical tests we could conduct. We determined an insoluble residue test, of which a low value indicates the material has been through a cement kiln. The high amount of insoluble material indicates that it is a road dust or a soil type material. A typical insoluble concentration on clinker or finished cement is 0.25% or less. The sample weight and insoluble concentration is listed below.

Sample #	0862-94
Date Recd	June 20, 1994
Sample Weight	0.0887 grams
Insoluble %	22.2%